

Original article |

IMMUNIZATION STATUS OF UNDERFIVE CHILDREN IN MIGRANTS FROM PERIURBAN AREAS OF PUNE

Varsha M Vaidya¹, Neeta M Hanumante², Aparna M Joshi³, Saurabh Mahajan⁴

Financial Support: None declared
Conflict of interest: None declared
Copy right: The Journal retains the copyrights of this article. However, reproduction of this article in the part or total in any form is permissible with due acknowledgement of the source.

How to cite this article:

Vaidya VM, Hanumante NM, Joshi AM, Mahajan S. Immunization Status of Underfive children in Migrants from Periurban Areas of Pune. Natl J Community Med 2013; 4(3): 457-460.

Author's Affiliation:

¹Associate Professor, Dept. of Community Medicine; ² Lecturer, Dept of Paediatrics; ³Incharge, RHTC; ⁴Intern, Bharati Vidyapeeth Medical College, Pune.

Correspondence:

Dr. (Mrs.) Varsha M Vaidya,
E-mail: drvarsha-
vaidya@yahoo.co.in

Date of Submission: 08-02-13

Date of Acceptance: 23-07-13

Date of Publication: 30-09-13

INTRODUCTION

Immunization against common childhood diseases has been an integral component of mother and child health services in India since adoption of the primary health care programmes. Roughly 3 million children die each year of vaccine preventable diseases (VPDs) with a disproportionate number of these children residing in developing countries.¹ Recent estimates suggest that approximately 34 million children are not completely immunized with almost 98% of them residing in developing countries.²

Reducing child mortality was a major focal point during 2010 Millennium Development Goals Review summit and remains the heart of UN's overall strategy.³The fourth Millennium Devel-

ABSTRACT

Introduction: Immunization against common childhood diseases has been an integral component of mother and child health services in India since adoption of the primary health care approach. According to WHO, immunization prevents between 2-3 million deaths every year. The focus of this study is to assess the immunization status of children under five years of age amongst migrant construction and brick kiln workers in three randomly selected periurban areas of Pune.

Methods: A community based cross sectional study was carried out in under five children of migrant and brick kiln workers of the randomly selected three sites in periurban areas of Pune.

Results: Study showed that only 20 % underfive children were fully immunised, 75% were partially immunized and 5% were not immunized at all. About one-fourth of the partially immunized children were not vaccinated because the mothers of the children forgot to take them for immunization as per schedule.

Conclusion: The study highlighted the necessity of specialized efforts to deliver vaccination services to the migrant population.

Keywords: immunization coverage, migrant workers, under five years children.

opment Goal⁴ aims to reduce mortality among children under five by two-thirds. India needs sharper focus which includes better managing neonatal and childhood illnesses, improving child survival and focusing on immunization particularly among vulnerable communities like the migrants. Migrant children suffer from malnutrition and lack of immunization when their parents are in perpetual low-income uncertain jobs that necessitate frequent shifts based on availability of work (MOHFW 2008).⁵

Hence a study was conducted to assess the immunization status of under five children amongst the migrant construction and brick kiln workers' families in periurban areas of Pune.

OBJECTIVES

The study was carried out to assess the immunization status of under-five children of migrant construction and brick kiln workers in periurban areas of Pune

and to determine the reasons for non immunization amongst these children.

MATERIALS AND METHODS:

A community based cross sectional study was carried out in under five children of migrant and brick kiln workers of the randomly selected three sites in periurban areas of Pune. The study was carried out during April 2012 to December 2012. Approval from Institutional Ethics Committee was obtained before carrying out the study. All the under five children in the families working on above mentioned sites were included in this study.

Total number of under five children were 130. But complete information about immunization could be obtained in 115 children. After taking a verbal consent, data was collected from the adult care-givers (mostly mothers) of the under-five children using pre-designed and pre-tested questionnaire. This included collection of socio-demographic information of parents, history of migration, birth order and immunization status for each child and reasons for failure of complete immunization. Age of the child was confirmed with mother and the records like birth certificate, immunization card etc. were reviewed wherever available. Awareness campaigns were organized to educate mothers about the role of vaccinations after conducting the survey.

Inclusion criteria: All under-five children on the randomly selected construction and brick kiln sites in periurban areas of Pune.

Exclusion Criteria: Under-five children without adult informant.

Definition used in the present study:⁶

Complete Immunization: As per 1998 World Health Organization (WHO) guideline, it is defined as an infant who has received BCG; three doses of DPT, OPV and Measles before 12-23 completed months .

Non Immunization : Failure of an infant 12-23 months old to receive even a single dose of the vaccines listed above.

Partial Immunization : Children who have received vaccine doses between non immunization and complete immunization.

RESULTS

The study was carried out among 130 under five children from 3 randomly selected periurban construction sites. 15 children were excluded due to lack of complete information hence total data of 115 children were analyzed. Table no.1 shows socio-demographic characteristics of under five children.77 percent mothers were married before the age of eighteen which is a legal age of marriage.39.9 percent fathers were married before the age of twenty one which is a legal age of marriage.eighty percent mothers and 70 percent fathers were illiterate.

Table 1: Socio-demographic characteristics of under five children (n=115)

Characteristics	Children (%)
Gender	
Male	68 (59.1)
Female	47 (40.8)
Birth Order	
1	34 (29.5)
2	62 (53.9)
3	12 (10.4)
4	7 (6.0)
Mother's Age at marriage	
<15 yrs	41 (35.6)
15-18 yrs	48 (41.7)
>18 yrs	26 (22.6)
Fathers Age at Marriage	
<18 yrs	25 (21.7)
18-21 yrs	21 (18.2)
>21 yrs	69 (60.0)
Mothers Education	
Illiterate	92 (80.0)
Primary	23 (20.0)
Secondary	0 (0.0)
Fathers Education	
Illiterate	81 (70.5)
Primary	34 (29.5)
Secondary	0 (0.0)

Immunization coverage was assessed based on history of route,site of immunization and immunization record if available.BCG vaccination was confirmed by checking for BCG scar.Table 2 shows immunization coverage amongst children based on history. The study showed that only twenty percent under five children were completely immunized and 5.2 percent were not immunized at all.

Table 2: Immunization coverage amongst under five children of migrant construction and brick kiln workers

Immunization Status	Children (n=115) (%)
Completely Immunized	23 (20.0)
Partially Immunized	86 (74.8)
Non Immunized	6 (5.2)

It was important to find out reasons for not immunizing children. Lack of awareness about immunization, no faith in immunization were important reasons for not giving immunization. Table 3 shows the important reasons for failure to give immunization as per the schedule.

Table 3: Reasons for Partial Immunization and Non Immunization

Reasons for Partial and non Immunization	Children (n=92) (%)
Forgot to give	22 (23.9)
No faith in immunization	14 (15.2)
Place of immunization is far	17 (18.5)
Unaware	20 (21.8)
Mother too busy	13 (14.1)
Illness in the baby	6 (6.5)

Highest coverage was seen for OPV 0 and lowest coverage was seen for DPT booster. Though eighty one percent gave history of BCG vaccination scar was seen only among 50.4 percent children.

Table 4: Coverage of various vaccines amongst under five children of migrant construction workers

Vaccines taken	Children (n=115) (%)	% coverage in India* 2010-11	Z value	P value
BCG taken	94 (81.7)	93.5	5.133	<0.001
BCG scar seen	58 (50.4)		18.748	<0.001
OPV 0	89 (77.3)	89.3	4.163	<0.001
OPV 1	71 (61.7)		9.575	<0.001
OPV 2	60 (52.1)		12.905	<0.001
OPV 3	62 (53.9)		12.281	<0.001
DPT 1	81 (70.4)	89.9	6.940	<0.001
DPT 2	77 (66.9)		8.185	<0.001
DPT 3	73 (63.4)		9.431	<0.001
Hep B 1	56 (48.6)	-	-	-
Hep B 2	57 (49.5)	-	-	-
Hep B 3	61 (53.0)	-	-	-
Measles	62 (53.9)	86.6	10.294	<0.001
DPT Booster	49 (42.6)	-	-	-

*Family Welfare Statistics in India. Available at www.mohfw.nic.in/; P value <0.001 is highly Significant

DISCUSSIONS

WHO estimates that 2 million child deaths were prevented through vaccination in 2003.⁷ Studies have shown that if all recommended doses of vaccines are given, it will protect 80–95 percent of the children against those diseases.⁸

The present study showed that only 20% of the children amongst the migrant families were totally immunized. The percentage of children partially immunized was 74.8%. The prevalence of non immunized children in the study was 5.2%. A study by MOHFW 2008, shows that 60% of the migrant children are partially immunized in India.⁵ Another study conducted in periurban areas of Kolkata reveals partial immunization status of 77.1% amongst the migrant population.⁹

Our study also showed that about one-fourth of the partially immunized (74.8%) and non immunized children (5.2%) did not receive the vaccines as the mothers forgot to take them for immunization as per schedule. Twenty two percent of these children were incompletely vaccinated because the mothers were unaware about the need of immunization.

The study of individual vaccines revealed that only 81.7% of the children had been given BCG compared to 93.5% coverage in India in 2010-11. The coverage of Measles vaccine was only 53.9% as compared to all India statistics of 86.6%.¹⁰ The difference in the coverage of individual vaccines amongst migrant children was significantly lower than that of the population coverage of under five children (Table 4)

80% of the mothers and 70.43% of the fathers were illiterate which may be a major reason for the non immunization of the children. A study conducted in Vadodara district shows that almost 73% women were illiterate and 27% were literate maximum up to primary education amongst the migratory construction workers which corroborates with present study findings.¹¹

Almost 77% of the mothers and 40% of the fathers were married before the legal age of marriage that is 18 years and 21 years respectively. In the study carried out amongst construction workers in Gujarat by Pandit N.¹¹, 36.5% of the mothers were married before age of 18 years whereas NFHS-III survey shows 44.5% married below 18 years of age.¹²

In the present study, majority of the migrant children were partially immunized and the main

reason seemed to be the parents who were either illiterate, unaware about the role of immunization. The data collected in the present study was based on information given by parents which has limitations of recall bias.

CONCLUSION

Our study has shown that majority of the under five children of migrant construction and brick kiln workers in the periurban areas of Pune were partially immunized. This highlights the necessity of specialized efforts to deliver vaccination services to the migrant population.

REFERENCES

1. Kane, M Lasher H. "The case for childhood immunization". Children's Vaccine Program at Path. Seattle, WA. 2002; Occasional paper, No.5.
2. Frenkel, LD Nielsen. "Immunization issues for the 21st century". *Ann Allergy Asthma Immunol.* 2003; 90(6): Suppl 3:45-52.
3. United Nations Millenium Development Goals. Available at: http://www.un.org/millenniumgoals/child_mortality.shtml. Accessed October 17th, 2012.
4. United Nations Development Programme. Available at: <http://www.undp.org/content/india/>. Accessed December 14th, 2012.
5. Annual Report (2008), Ministry of Health and Family Welfare (MoHFW), Govt. of India. Available at: <http://mohfw.nic.in/WriteReadData/1892s/9457038092AnnualReportHealth.pdf>. Accessed November 7th, 2012.
6. Indian Academy of Peadiatrics. Available at: <http://www.indianpediatrics.net/mar2012/mar-203-223.htm>. Accessed December 2nd, 2012.
7. Global Immunization Vision and Strategy 2006-2015. Geneva, Switzerland, World
8. Health Organization/United Nations Children's Fund, 2005. Available at www.who.int/vaccines/GIVS/english/GIVS_Final_17Oct05.pdf. Accessed December 5th, 2012.
9. Childhood Immunization, Healthed, Ministry of Health. Available at: <https://www.healthed.govt.nz/resource/childhood-immunisation>. Accessed October 11th, 2012.
10. Suresh Sharma, Immunization Coverage in India, Institute of Economic Growth University Enclave. 2007; Working Paper Series No. E/283/2007.
11. Family Welfare Statistics in India, 2011. Available at: www.mohfw.nic.in. Accessed on December 15th, 2012
12. Niraj Pandit, Ashish Trivedi, et al. Study of maternal and child health issues among migratory construction workers. *Healthline.* 2011;2(2):16-18.
13. National family health survey III. Available on: <http://www.nfhsindia.org/NFHS-Data/>. Accessed December 20th, 2012.